

Anti-Substance P Receptor, pain



Polyclonal Antibody

Cat. # AB5060

Lot # LV1525037

pack size: 50 µL

Store at -20°C

FOR RESEARCH USE ONLY
NOT FOR USE IN HUMANS

Certificate of Analysis

page 1 of 3

Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB, IH	Gp, M, R	N/A	C terminus	Rb	35 kDa	NP_003173

Background

Substance P is a tachykinin family neuropeptide that functions as a neurotransmitter and neuromodulator. In the CNS, Substance P is involved in the regulation of mood, anxiety, sleep, satiety, reinforcement, respiratory rhythm and pain processing. In nociception, the neuropeptide is released at local spinal cord synapses. Recent research now shows substance P is potentially involved in endothelial cell differentiation as well as diverse roles in neuroinflammatory response. The endogenous receptor for Substance P is neurokinin 1 receptor (NK1 receptor), which belongs to the tachykinin receptor sub-family of GPCRs.

Presentation

Rabbit polyclonal serum in buffer containing liquid with no preservatives.

Specificity

Specific for the Substance P Receptor (NK-1).

Species Cross-reactivity

Rat, mouse and guinea pig.

Immunogen

Synthetic peptide that corresponds to a 23 amino acid sequence (385-407) of the COOH terminus of the rat Substance P Receptor (NK-1).

Storage and Handling

Stable for 1 year at -20°C in undiluted aliquots from date of receipt.

Handling Recommendations: Upon first thaw, and prior to removing the cap, centrifuge the vial and gently mix the solution. Aliquot into microcentrifuge tubes and store at -20°C. Avoid repeated freeze/thaw cycles, which may damage IgG and affect product performance.

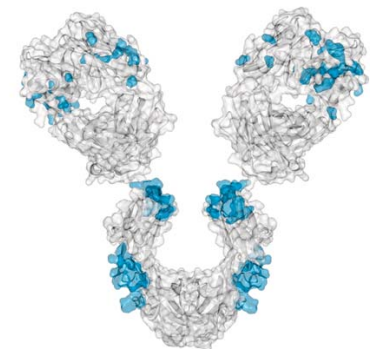
Control

Spinal Cord, brain membrane lysate

Quality Control Testing

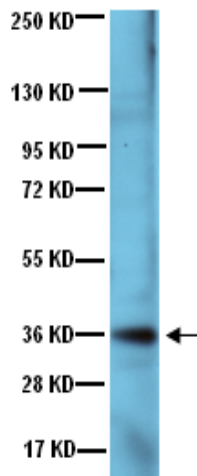
Evaluated by western blot on **Mouse brain membrane** lysates.

Western Blot Analysis: 1:500 dilution of this antibody detected **NK-1R** on 10 µg of **Mouse brain membrane** lysates.



References

1. Matyas, F., et al. (2004). *Eur. J. Neurosci.* 19(5):1243-1256.
2. Solomon, I. C., et al. (2003). *Respir. Physiol. Neurobiol.* 139(1):1-20.
3. Baker, S.J., et al. (2003). *Mol. Brain Res.* 111:136-147.
4. Saka E., et al. (2002). *PNAS.* 99(13):9004-9009.
5. Piggins, et al. (2001). *J. Comp. Neurol.* 438:50-65.



Western Blot Analysis:
Representative lot data.
Mouse brain membrane lysate was resolved by electrophoresis, transferred to PVDF membrane and probed with anti-NK-1R (1:500 dilution). Proteins were visualized using a donkey anti-rabbit secondary antibody conjugated to HRP and a chemiluminescence detection system.

Arrow indicates protein NK-1R (~35 kDa).

APPLICATION LEGEND: WB Western Blotting IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence
IH Immunohistochemistry (Tissue)

SPECIES LEGEND: Gp Guinea Pig H Human M Mouse R Rat Rb Rabbit WR Most Common Vertebrates

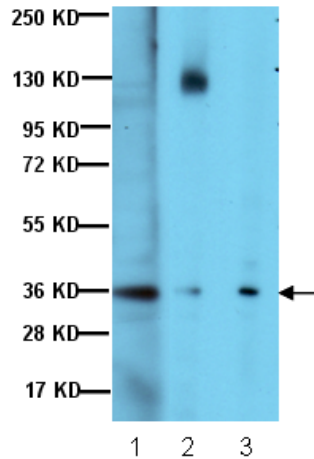
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Additional Research Applications



Western Blot Analysis:

Representative image from a previous lot.

Mouse brain membrane lysate (Lane 1), Mouse spinal cord lysate (Lane 2) and Rat spinal cord lysate (Lane 3) were resolved by electrophoresis, transferred to PVDF membrane and probed with anti-NK-1R (1:500 dilution of a previous lot).

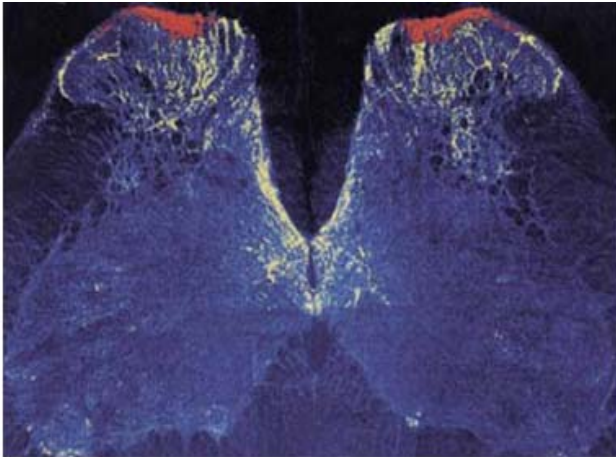
Proteins were visualized using a goat anti-rabbit secondary antibody conjugated to HRP and a chemiluminescence detection system.

Arrow indicates protein NK-1R (~35 kDa).

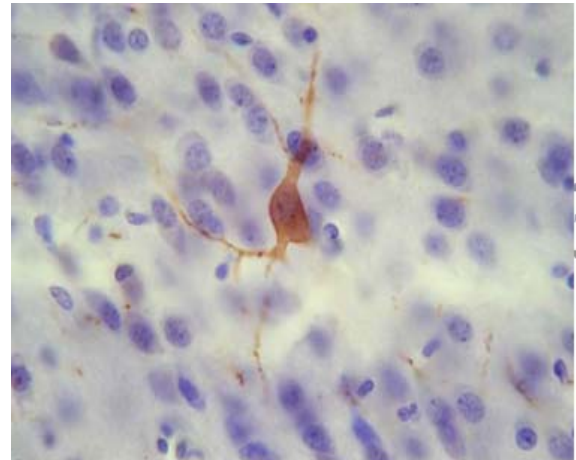
Immunohistochemistry: Representative images from a previous lot.

A previous lot was used at 1:100-1:1,000 dilution.

Optimal working dilutions must be determined by the end user.



Rabbit anti-Substance P Receptor [NK-1] (Catalog Number AB5060). SPR staining is shown in red. Staining of rat spinal cord.



Rabbit anti-Substance P Receptor (Cat. No. AB5060). Localization of Substance P Receptor in rat brain. Photo courtesy of Sergiy Tadtayev, NPIMR, Harrow, UK.

Important Note: During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.

Western Blot

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on cell lysate and transfer the proteins to a PVDF membrane. Wash the PVDF membrane twice with water.
2. Block the blotted PVDF membrane in freshly prepared 5% BSA or milk with 0.05% Tween[®]-20 for 1 hour at room temperature with constant agitation.
3. Incubate the PVDF with the recommended dilution of anti-Substance P Receptor diluted in freshly prepared 5% BSA or milk for 1 hour at room temperature or overnight with agitation at 2-8°C.
4. Wash the PVDF 3 times with TBST.
5. Incubate the PVDF in the secondary reagent of choice (a goat anti-rabbit HRP conjugated IgG, Catalog # 12-348 1:1000 dilution was used) in 5% milk for 1 hour with agitation at room temperature.
6. Wash the PVDF 3-5 times with TBST.
7. Use Spray and Glow Catalog # 17-373 to visualize results. Use as directed.

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

Please visit www.millipore.com for additional product information, test data and references

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PROTOCOL**IMMUNOHISTOCHEMISTRY**

1. Use standard deparaffinization techniques on tissue specimens.
2. Pretreat tissues using a citrate buffer, pH 6.0 and high heat epitope retrieval techniques.

Note: Do not allow tissues to dry out during the staining procedure.

The following steps are taken from the product manual for IHC Select® HRP/DAB Detection Kit (Cat. No. DAB050)

3. Apply the blocking reagent to the tissue specimen and incubate in an enclosed chamber for 5 minutes.
4. While holding the slide at a 45° angle, gently rinse the specimen with 1X Rinse Buffer for a minimum of 15 seconds. Tap the end of the slide onto a paper towel to remove excess Rinse Buffer.
5. Apply a 1:100-1:1000 dilution of primary antibody over the entire tissue specimen and incubate in an enclosed chamber at room temperature for 60 minutes.
6. Rinse specimen as performed in Step 4.
7. Apply the biotinylated secondary antibody to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
8. Rinse specimen as performed in Step 4.
9. Apply the Streptavidin-HRP solution to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
10. Rinse specimen as performed in Step 4.
11. Apply the DAB (chromogen reagent) to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
12. Rinse specimen as performed in Step 4.
13. Apply the Hematoxylin counterstain solution to the tissue specimen and incubate in an enclosed chamber for 1 minute.
14. Rinse specimen as performed in Step 4.
15. Place the tissue slides directly into a container filled with deionized water until mounting.
16. Mount a coverslip using an aqueous-based mounting media or for permanent mounting, dehydrate tissue through a graded series of alcohols, immerse in xylene, then apply a xylene-based mounting media (e.g. Permount) and coverslip.

RELATED PRODUCTS (specific)

cat #	description
AB5060	■ Anti-Substance P Receptor, pain
AB5800	■ Anti-Substance P Receptor, pain, a.a. 393-407 of rat NK1 receptor
AB5897	■ Anti-Substance P Receptor, pain, C-terminus
AB962	■ Anti-Substance P, pain
AB5892	■ Anti-Substance P, pain
AB1566	■ Anti-Substance P, pain
MAB356	■ Anti-Substance P, pain, clone NC1
AB1977	■ Anti-Substance P/Neurokinin, pain
AG326	■ Substance P Receptor, pain, control peptide for AB5800

RELATED PRODUCTS (non-specific)

cat #	description
IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 µm
ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
17-373	■ Spray & Glow™ ECL WB Detection System 1 ea
2060	■ Re-Blot Western Blot Recycling Kit
2500	■ Re-Blot Plus Western Blot Recycling Kit
B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

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